

# Exhibit C

**SUPPLEMENTAL EXHIBIT C:  
BMS AND OTN SALES DATA: REVENUES, PRICES, AND PRICE  
DISPERSION**

**A. DATA USED**

1. BMS and OTN invoice and chargeback data are in 18 files: Pre1997-Direct.txt, DirectSales\_IncludingPHS.txt, Pre1997-Indirect.txt, Chargebacks\_IncludingPHS.txt, OTN Blenoxane\_Pre1997.txt, OTN Blenoxane.txt, OTN Cytosan\_Pre1997.txt, OTN Cytosan.txt, OTN Etopophos\_Pre1997.txt, OTN Etopophos.txt, OTN Paraplatin\_Pre1997.txt, OTN Paraplatin.txt, OTN Rubex\_Pre1997.txt, OTN Rubex.txt, OTN Taxol\_Pre1997.txt, OTN Taxol.txt, OTN Vepesid\_Pre1997.txt, and OTN Vepesid.txt (collectively "BMS/OTN data").
2. BMS rebate data are in sappmnts with filenames.xls.
3. BMS WLPs are in PricingRevised.xls and buspar\_rubex.xls.
4. Hartman ASPs are from the Hartman Liability Report, Attachment G.2.a ASP.

**B. GENERAL DATA TREATMENT**

5. Some NDCs in the BMS/OTN data files were shorter than the standard 11-digit length. Using the NDC descriptions provided with the data and <http://www.fda.gov/cder/ndc/database/> as an independent source for NDCs, a crosswalk was created to standardize the NDCs in the BMS/OTN data. Using the crosswalk, the shorter NDCs were corrected by inserting the missing leading zeroes, as did Dr. Hartman.
6. The quantity is set to zero in Sharp transactions with reason codes '05' or '53', as does Dr. Hartman.
7. The quantity is set to zero in Sharp and OTN transactions where the ext\_amt is equal to zero or empty.
8. In the BMS/OTN data files, the invoice date fields are standardized and customer categories are assigned based on the CCC and the customer billing category fields.

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9. The BMS Invoice data and BMS Chargeback data are each then divided into two customer groups, Federal government and Non-Federal government (all categories not classified as Federal government) based on the customer category. Transactions are classified as Federal government if the CCC is '31', '32', '33', '34', '35', '39', '41', '42', '43', '45', or '95' and the customer billing category is '50' or '55'. In addition, transactions with a CCC of '52' or '952' and a customer billing category of '55' are classified as Federal government.<sup>1</sup> All the records in the OTN data are classified as Non-Federal government.

**C. SUMMARY OF REVENUE BY PRODUCT IN EXHIBIT D**

10. In the BMS/OTN data files, the sales/chargebacks and quantity fields are aggregated by customer group (Federal government or Non-Federal government), NDC and month.
- Dollar sales and quantity in BMS Invoice data are aggregated by customer group, NDC and month to BMS Invoice Revenue and BMS Invoice Quantity.
  - Chargeback Dollar amounts and chargeback quantity in BMS Chargeback data are aggregated by customer group, NDC and month to Chargeback Dollars and Chargeback Quantity.
  - OTN Dollar sales and quantity in OTN data are aggregated by customer group, NDC and month to OTN Revenue and OTN Quantity.
11. Revenue at WLP is calculated by multiplying the total Non-Federal Quantity by the WLP. Prior to May 2001, the total Non-Federal Quantity is BMS Non-Federal Invoice Quantity plus OTN Quantity minus the Chargeback Federal Quantity; after May 2001, it is just BMS Non-Federal Invoice Quantity minus the Chargeback Federal Quantity because starting in May 2001, OTN sales are recorded in both the BMS and OTN invoice data.

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<sup>1</sup> There may be Federal government transactions left in the Non-Federal government data that cannot be easily identified. Consequently, the results in Exhibit D, E, F and G are conservative.

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12. Net revenue is calculated by year and product by adding BMS Non-Federal Gross Revenue to OTN Revenue and then subtracting Non-Federal Chargeback Dollars and Rebates.<sup>2</sup>
13. Rebates are calculated from the 'sapchecks' worksheet of the file sappmnts with filenames.xls. Rebates to "VHA" were excluded. The reason column in these data is used to identify the price concession type, period, and product(s). As an example for the period, a rebate with "3Q Multisource Admin Fee Dec 99-Feb 00" as the reason is assigned to December 1999, January 2000, and February 2000. When the period is not evident from the reason, the rebates are assigned using the period length in the reason, if provided, and the check issue date.
14. For rebates associated with one product, rebates are assigned to quarters based on the period. If the period spanned more than one quarter, the rebate amount is divided among the quarters based on the number of days in each quarter. If the reason included months, this is done on a monthly level. For example, a rebate for Feb-Apr 2000 is divided between 2000Q1 and 2000Q2 based on the number of days in each quarter:  $(29+31) \div 90 = 66.67\%$  of the rebate is allocated to Q1, while  $30 \div 90 = 33.33\%$  of the rebate is allocated to Q2.
15. For rebates associated with more than one product, such as Taxol/Paraplatin, rebate amounts are apportioned between products based on the quarterly net revenue by product.
16. Rebates are aggregated to the product and quarter.

**D. BMS/OTN PRICE DISPERSION IN EXHIBIT E**

17. To calculate the BMS/OTN Price Dispersion in Exhibit E, BMS Non-Federal transactions are separated into four categories: 1) BMS Direct Transactions to Non-Wholesalers, 2) OTN Transactions, 3) BMS Indirect Transactions

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<sup>2</sup> There is a difference in the timing of sales and their associated chargebacks that may cause net revenues to be overstated or understated.

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Generating Chargebacks, and 4) BMS Direct Transactions to Wholesalers Not Generating Chargebacks. For each category, the price associated with each transaction is computed relative to the BMS WLP. After the price relative to WLP is computed for each transaction, the net revenues are aggregated according to the price intervals as a percentage of WLP shown in Exhibit E and the distribution of net revenue for each product for each year is computed accordingly. Net revenue in category 3) is computed as the revenue per the invoice price less the chargeback. In the other three categories, net revenue is the revenue per the invoice price. Due to the transaction-level nature of this analysis, rebates are not considered but are immaterial.<sup>3</sup>

**i. Four Transaction Categories**

*a) BMS Direct Transactions to Non-Wholesalers*

18. For each direct transaction to a non-wholesaler in the BMS invoice data, the invoice price is compared to the WLP and the difference as a percent is computed.

*b) OTN Transactions*

19. For each transaction in the OTN invoice data, the invoice price is compared to the WLP and the difference as a percent is computed. Any OTN Taxol and Paraplatin rebates are not taken into account.<sup>4</sup>

*c) BMS Indirect Transactions Generating Chargebacks*

20. For each transaction where the product is purchased from a wholesaler and a chargeback is generated, the price after netting out the chargeback is compared to the WLP and the difference as a percent is computed.

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<sup>3</sup> In total, rebates account for less than 0.8 percent of net revenue from 1993 through 2002 for the BMS products at issue.

<sup>4</sup> In total, OTN Taxol and Paraplatin rebates account for less than 0.3 percent of OTN Taxol and Paraplatin net sales from 1993 through 2002 and 1.2 percent of OTN Taxol and Paraplatin net sales from 2001 through 2002. The Paraplatin and Taxol rebates start on 12/29/00 and on 8/31/01, respectively. (OTN Rebate Paraplatin.txt, OTN Rebate Taxol.txt, and Exhibit D)

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*d) BMS Direct Transactions to Wholesalers Not Generating Chargebacks*

21. The set of transactions remaining after the first three categories is examined as follows.

- a. Annual unit sales to wholesalers (using the CCC field) in the BMS invoice data and annual unit sales in the chargeback data are computed by NDC.
- b. Direct sales to wholesalers are adjusted to remove the BMS transactions to wholesalers generating chargebacks (i.e. indirect transactions) and, beginning in May 2001, OTN transactions by applying an adjustment ratio to each wholesaler transaction.<sup>5</sup> The adjustment ratios are computed by year and NDC as the ratio of indirect transactions not associated with chargebacks nor from OTN to all indirect transactions. Before May 2001, the numerator of the adjustment ratio is the chargeback quantity. Beginning in May 2001, the numerator of the adjustment ratio is computed as the sum of the OTN quantity and the chargeback quantity. This numerator is divided by the wholesaler invoice quantity to yield the percent of indirect units not generating chargebacks nor related to OTN sales. These adjustment ratios are applied to each wholesaler transaction to effectively remove the transactions with a chargeback or that go through OTN. The effect of applying these adjustments is to net the sales to wholesalers generating chargebacks from the total sales to wholesalers.<sup>6</sup> For each adjusted transaction, the invoice price is compared to the WLP.

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<sup>5</sup> Starting in May 2001 OTN sales are recorded in both the BMS and OTN invoice data.

<sup>6</sup> As a result of differences in the timing of sales and their associated chargebacks, the sales volume to wholesalers not generating chargebacks may be overstated or understated. For example, suppose the sales volume drops sharply from Year 1 to Year 2. In this situation, the Year 2 chargebacks are likely to overstate the chargebacks truly associated with Year 2 sales. Consequently, after deducting the Year 2 chargebacks from the Year 2 sales, the Year 2 sales to wholesalers not generating chargebacks are likely to be understated.

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The effect of this method is that the price distribution of this remainder set of transactions reflects the distribution of all BMS indirect transactions.<sup>7</sup>

**E. CYTOXAN, RUBEX, TAXOL AND VEPESID REVENUE SHARE GRAPHS IN EXHIBIT F**

22. The graphs in Exhibit F utilize the revenue share data created for Exhibit E.
23. After the price relative to WLP is computed for each transaction, the net revenues and quantities are aggregated according to the price intervals as a percentage of WLP shown in Exhibit E for each NDC and year.
24. Revenue and quantity figures are then aggregated into two groups – transactions within 5% of WLP and all other transactions. The average price is calculated for each group by dividing net revenue by quantity. The within 5% of WLP revenue share is created by dividing the net revenue generated within 5% of WLP by the combined net revenue of the two groups. The revenue share for all other transactions is created similarly.

**F. BLENOXANE AND TAXOL PRICE DISPERSION GRAPHS IN EXHIBIT G**

25. To calculate the TC-Max and TC-Min prices, sales to wholesalers are dropped from both the BMS Invoice and Chargeback Non-Federal government transactions data.
26. For each transactions data set (BMS Invoice, Chargeback, and OTN), the dollar sales and quantity are aggregated by customer group, NDC and quarter. The Chargeback sales are created by multiplying contract price by quantity before aggregating by customer group, NDC, and quarter.
27. The data sets are then combined and then the total dollar sales and quantity by customer, NDC, and quarter are calculated.

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<sup>7</sup> When the calculated adjustment ratio for a specific NDC in a specific year is negative, the adjustment ratio is set to zero. This step may cause a slight divergence between the price distribution imputed for this set of transactions versus the price distribution of all BMS indirect transactions.

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28. A customer group price is then calculated by dividing the dollar sales by quantity for each customer, NDC and quarter.
29. The TC-max price is then determined by taking the maximum price over all the customer categories for each NDC and quarter.
30. Similarly, the TC-min price is determined by taking the minimum price over all the customer categories for each NDC and quarter.
31. Data for NDC 00015321430 (PARAPLATIN 1X150MG LYO VL) and NDC 00015301020 (BLENOXANE INJ 15 UNIT VL) are kept.